From personal use to drug trafficking offences in chemsex contexts: drug quantity thresholds established in INTCF reports

Del consumo propio al delito de tráfico de drogas en contextos de chemsex: los baremos establecidos en los informes del INTCF

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Abstract

Article 368 of the Spanish Criminal Code criminalises drug trafficking, and the quantity seized serves as circumstantial evidence of the substance's intended use. In practice, the assessment of the evidence relies on dose tables whose de facto authority derives from the Spanish National Institute of Toxicology and Forensic Sciences (INTCF). Through a critical analysis of legal and documentary sources, this article examines the consequences of using the quantities set out in certain INTCF reports as a criterion for distinguishing possession for personal use from possession for trafficking. These reports, obtained through freedom-of-information requests after appeals against initial refusals of access, set quantities without a legislative or regulatory procedure or a scientific rationale against which particular values can be assessed. It examines the initial report of 18 October 2001 and its supplements; the treatment of γ-butyrolactone (GBL) as equivalent to γ-hydroxybutyric acid (GHB) in expert reports after GHB esters and ethers were removed from Spanish controls in 2006; the extension of methamphetamine reference quantities to synthetic cathinones; and the conversion of single-dose ketamine amounts into daily consumption quantities. It concludes that certain expert reports function as criteria with criminal-law consequences for people who use drugs and proposes reserving the setting of reference quantities to a legislative or regulatory process, using traceable methods and scientific evidence.

Key Words

INTCF, drug quantity thresholds, GBL, *chemsex*, principle of legality, harm reduction.

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Resumen

El artículo 368 del Código Penal sanciona el tráfico de drogas, y la cantidad incautada interviene como indicio del destino de la sustancia. En la práctica, la valoración probatoria se apoya en cuadros de dosis cuya autoridad de facto deriva del Instituto Nacional de Toxicología y Ciencias Forenses (INTCF). Este trabajo analiza, desde una perspectiva jurídico-documental crítica, las consecuencias de utilizar las cantidades fijadas en determinados informes del INTCF como criterio para distinguir la tenencia destinada al consumo propio de la destinada al tráfico. Estos informes, obtenidos por la vía de transparencia tras recurrir las denegaciones iniciales de acceso, fijan cantidades sin un procedimiento normativo y sin una justificación científica que permita contrastar determinados valores. Se analizan los casos del informe inicial de 18 de octubre de 2001 y sus ampliaciones; la equiparación pericial de la γ-butirolactona (GBL) al GHB tras la supresión en 2006 de los ésteres y éteres del ácido γ-hidroxibutírico (GHB); la extensión de los baremos de metanfetamina a las catinonas sintéticas; y el traslado de dosis de ketamina por toma a cantidades de consumo diario. Se concluye que determinados dictámenes técnicos funcionan como criterios con consecuencias penales sobre personas que usan drogas y se propone reservar la determinación de cantidades de referencia al cauce normativo, con metodología trazable y evidencia científica.

Palabras clave

INTCF, baremos, GBL, *chemsex*, principio de legalidad, reducción de daños.

1. INTRODUCTION

The offence against public health under Article 368 of the Spanish Criminal Code (Código Penal; CP) requires proof that the substance possessed is intended for trafficking. Quantity is an indicator that the substance is intended for trafficking and must be assessed in light of the circumstances of the case. Nevertheless, the tables of daily consumption doses and quantity thresholds for the aggravated offence involving a 'quantity of notable importance' (*notoria importancia*), produced by the National Institute of Toxicology and Forensic Sciences (INTCF), have acquired decisive importance. They originate in the report of 18 October 2001, which the Supreme Court's Second Chamber used as a reference in its non-jurisdictional agreement the following day on the aggravating circumstance of *notoria importancia* (Tribunal Supremo, 2001; INTCF, 2001).

Over time, these tables have been supplemented by addenda, *ad hoc* expert reports and equivalences between substances. The resulting reference quantities are used to assess whether the amount seized can be accounted for by personal use or constitutes circumstantial evidence of trafficking. These criteria have been established outside any legislative or regulatory procedure and lack adequate mechanisms for transparency and scientific review.

The problem directly affects chemsex, the intentional use of psychoactive substances during prolonged sexual encounters. The use of GHB, GBL, mephedrone, other synthetic cathinones or ketamine may involve repeated dosing and holding a supply for a session or several days. When travelling with these quantities for personal use, people who use drugs may exceed the thresholds used to infer an intention to traffic (Bourne et al., 2014; Paniagua and Dujo,

2023; Viader Castro, 2024). When these quantitative criteria fall below or very close to the smallest quantities sold on the black market, possession for personal use may be treated as circumstantial evidence of drug trafficking, with the consequent risk of conviction under Article 368 CP (Código Penal, art. 368; INTCF, 2024, 2025; Plan Nacional sobre Drogas [PNSD], 2021; Alianza por la Libertad y la Ética Psicoactiva y Humana [ALEPH], 2025).

Drawing on reports, files documenting the preparation of ministerial orders that add substances to or remove them from Spain's drug control schedules, case law, toxicological literature and public statements by INTCF officials, this article argues that Spain's system of thresholds distinguishing personal drug use from the offence against public health lacks adequate safeguards. The Prosecution Office at the Supreme Court opened preliminary inquiries 1/2025 on 12 September 2025 and referred the question of GBL's exclusion from statutory drug control since 2006 to the Special Anti-Drug Prosecution Office. The proceedings concluded with the closure orders issued in 2026, whose reasoning is examined below (Fiscalía del Tribunal Supremo, 2025, 2026; Fiscalía Especial Antidroga, 2026). The Second Chamber has also reiterated that these reports do not form part of the constituent elements of the offence and may be challenged in adversarial proceedings (Tribunal Supremo, 2026). Even so, some expert reports exceed their function by setting quantities below actual levels of consumption that influence the assessment of whether the substance is intended for trafficking, in tension with the principles of legality, the presumption of innocence, proportionality and legal certainty.

2. MATERIALS AND METHODS

This legal and documentary study is based on a reasoned selection of documents and judicial decisions, organised into six types of sources. First, it examines INTCF reports and expert opinions obtained under Articles 12 and 13 of Law 19/2013 of 9 December on transparency, access to public information and good governance (LTAIBG). These include the tables attributed to the report of 18 October 2001 and reproduced in report 12691/03 of 22 December 2003; expert report 04/12559 of 18 November 2004 and its supplement of 7 December; M23-17208, concerning GHB/GBL; and M24-17078 (continuation) of 18 March 2025, including its sections on cathinones and ketamine and their accompanying bibliography.

Second, the complete drafting file for Order SCO/2004/2006, which removed GHB esters and ethers, including GBL, from drug control, has been analysed. The file comprises the explanatory memorandum, the Ministry of the Interior's note and submissions by the Spanish Chemical Industry Business Federation (FEIQUE). The study also includes the certificate issued by the Spanish Agency of Medicines and Medical Devices (AEMPS) on 28 July 2025 and the documentation for the draft order published in October 2025, Annex I of which contains the AEMPS's response to the submissions received. The third group of sources consists of decisions by the Transparency and Good Governance Council (CTBG) upholding complaints against refusals of access to the reports.

Fourth, decisions by the Supreme Court, the High Courts of Justice (TSJ) and the Provincial Courts have been examined, together with non-jurisdictional agreements,

sectoral meetings and prosecution decisions from 2025–2026. The search of the Judicial Documentation Centre (CENDOJ) covered the period 2001–2026 and used terms relating to GBL, cathinones and chemsex. Decisions applying the criteria under examination were selected, alongside others questioning or departing from them.

The fifth group comprises publications and public statements by INTCF officials (Martínez González, 2023, 2025), checked against the available documentation. Finally, national and international toxicological literature has been consulted, including publications by the European Union Drugs Agency (EUDA), the United Nations and the World Health Organization (WHO), together with literature on chemsex, harm reduction and comparative drug policies (ALEPH, 2025; Neicun et al., 2019). To examine the consequences for people who use drugs, the study also draws on news reports, parliamentary documents and materials produced by organisations working in the field of chemsex.

Access to the INTCF reports was requested through the Transparency Portal under Articles 17–24 LTAIBG. The requests were systematically refused, either through administrative silence or through decisions invoking prejudice to the prevention of criminal offences under Article 14.1.e) or, alternatively, the auxiliary nature of the information under Article 18.1.b). When determining the complaints, the CTBG rejected these justifications and reiterated that the reports constitute public information under Articles 12 and 13. It did so in Decision 1488/2025 of 11 December, file 1812/2025, concerning GBL expert report 06-00523/2006, and Decision 1476/2025 of 5 December, file 1677/2025, concerning the reports from 2003, 2004 and 2011.

3. THE 2001 REPORT AND ITS SUPPLEMENTS

At the request of the Supreme Court's Second Chamber, the INTCF issued its expert report of 18 October 2001 on consumption quantities for the main narcotic drugs and psychotropic substances (INTCF, 2001). The following day, the Chamber's non-jurisdictional agreement adopted the quantity corresponding to five hundred daily consumption doses as the reference for the aggravating circumstance of *notoria importancia*, now provided for in Article 369.1.5.ª CP (Tribunal Supremo, 2001). The PNSD table also includes an estimated supply for three to five days, used to assess whether the quantity possessed may be intended for personal use (PNSD, 2021).

Interpreting these tables requires a distinction between the different quantities they bring together and the function assigned to each. The minimum psychoactive dose is used when applying the principle of insignificance. The 'usual dose of abuse' provides a reference for a single administration, whereas daily consumption estimates the amount used in twenty-four hours and the estimate for three to five days represents a supply for personal use. The *notoria importancia* threshold, in turn, determines whether an aggravating circumstance applies. The justification for each figure must explain both its calculation and the legal use assigned to it.

The first difficulty lies in accessing the documentation needed to check how the quantities were calculated. Report 12691/03 of 22 December 2003, obtained through the Transparency Portal, reproduces the reference tables and allows their basis to be examined (INTCF, 2003). It reveals three shortcomings that persist in subsequent reports: bibliographic references insufficient to reconstruct each figure, a

brief table legend serving as the methodological explanation, and an inconsistent selection of values within the ranges. For amphetamine, the usual dose of abuse is given as 30–60 mg tablets, and the legend allows for three to six tablets daily, whose upper limit would be 360 mg/day; nevertheless, the table sets the figure at 180 mg. For MDMA, it adopts 480 mg daily, calculated from six 80 mg tablets, although the legend acknowledges usual doses ranging from one to fifteen tablets a day (INTCF, 2003).

Parts of the table use pharmaceutical formulations and doses that do not correspond to non-therapeutic use. The diversity of consumption patterns had already been documented in the United Nations manual on drug analysis in biological specimens: it described amphetamine doses of 5–15 mg among occasional users and 100–2,000 mg daily among regular users, taken orally or intranasally (Naciones Unidas, 1995, p. 59).

For d-methamphetamine, report 12691/03 sets a usual dose of abuse of 2.5–15 mg and estimates four administrations over twenty-four hours: 15 × 4 = 60 mg daily. This figure yields both the maximum estimated supply of 300 mg for three to five days and the *notoria importancia* threshold of 30 g, obtained by multiplying by five and five hundred respectively. The report itself specifies that 'consumption over a day must not be confused with consumption every day' (INTCF, 2003, p. 3). The 2025 expert report retains the four administrations and the resulting figures without providing specific empirical justification for that frequency, and then applies the same calculation to six synthetic cathinones (INTCF, 2003, 2025). The absence of everyday consumption therefore neither rules out intensive episodic use nor, in itself, excludes possession for personal use.

The lack of public access to the documents underlying these calculations had already been noted at the seminar on threshold quantities organised by the Transnational Institute (TNI) and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), held in Lisbon on 20 January 2011. Its report attributes the Spanish estimates to a study by the Institute of Toxicology, but laments that 'the documents on which their estimates are based have not been made public' (Harris, 2011, p. 9).

Criticism of the basis of the tables emerged from the outset. In February 2004, the INTCF's own director, Josefa Gómez, publicly distanced herself from the Supreme Court's interpretation of the table. She explained that the Institute had compiled the literature without conducting original research, possibly extrapolating from animal studies and without taking tolerance into account (Lázaro and de Benito, 2004). In the legal literature, Manjón-Cabeza Olmeda (2003, p. 46), examining minimum psychoactive doses and the principle of insignificance, noted that the table '[was] not entirely faithful to the INT 2003 [report]' and that judgments had used it 'as the dividing line between conduct outside and within the scope of the criminal offence', in a situation that remained 'open and confused'. Tamarit Sumalla (2003, p. 22 of the digital version), for his part, warned of the Second Chamber's 'lawmaking role' in setting the quantities determining *notoria importancia*.

The current head of the INTCF's Drugs Service has acknowledged the legal, rather than pharmacological, basis of minimum psychoactive doses. At the Third UNED Workshop on Addictions (13 December 2025), she stated:

> What we call minimum psychoactive doses

> are quantities that were set in advance. But they do not make so much sense pharmacologically; rather, their legal basis is the principle of legal insignificance […]. They should not be understood from a pharmacological perspective, but purely from a legal one. (Martínez González, 2025, p. 12)

Referring to consumption doses and supplies held for personal use, she added that the figures had been set 'on the basis of the reference reports issued by the Institute almost 20 years ago' and that, even though actual consumption may have changed, 'those quantities are not going to keep being changed […] in the courts at the whim of whatever people happen to be consuming' (Martínez González, 2025, pp. 12–13). These statements show that the thresholds are maintained even as the consumption patterns they are intended to represent change.

4. γ-BUTYROLACTONE (GBL): A SUBSTANCE EXCLUDED FROM DRUG CONTROL

Between 2002 and 2006, GBL was included in Schedule IV of Annex I to Royal Decree 2829/1977, pursuant to Order SCO/469/2002, as a cyclic ester of GHB (Orden SCO/469/2002). The legal framework in force during that period was the context both for the non-jurisdictional agreement of the Supreme Court's Second Chamber of 13 December 2004, which set the *notoria importancia* threshold for GHB at 10,500 g and applied 'the same criterion' to GBL, and for contemporaneous judgments classifying it as a drug causing serious harm to health (Tribunal Supremo, 2004a, 2004b).

The drafting file for Order SCO/2004/2006 allows the reasons for GBL's subsequent exclusion to be reconstructed. The note from the Ministry of the Interior's Analysis and Forecasting Office, dated 15 February 2006, states that in November 2005 it became aware of proceedings before Investigating Court No. 4 of Málaga 'arising from an alleged offence against public health involving the seizure of the substance known as Gamma-Butyrolactone (GBL)'. It adds that, until then, the General Central Register of Operators had not considered it psychotropic because the 2002 Order did not expressly mention it and the Register had received no notification that it was an ester of GHB (Ministerio de Sanidad y Consumo, 2006, Interior Ministry note, p. 7).

The explanatory memorandum estimated global trade in GBL at approximately 125,000 tonnes annually and described its uses as a solvent, in organic synthesis, herbicide manufacture, high-technology industries and cosmetics. It stated that Spain was the only European Union country to treat GHB esters and ethers as psychotropic substances and that this placed the Spanish chemical industry 'at a disadvantage and in an unfair position compared with the other countries of the European Union' (Ministerio de Sanidad y Consumo, 2006, explanatory memorandum, pp. 1–2).

The memorandum expressly considers GBL's metabolic conversion into GHB: 'When metabolised in the body, γ-butyrolactone (GBL) is converted into γ-hydroxybutyric acid (GHB), acquiring its pharmacological effects'. Nevertheless, it considers that control by the AEMPS 'does not currently reflect reality', although it recommends voluntary notification because of the possibility of diversion to il-

licit uses (Ministerio de Sanidad y Consumo, 2006, explanatory memorandum, p. 2). The exclusion was therefore adopted through the prescribed legislative or regulatory procedure, with knowledge of this pharmacological transformation and after weighing the substance's properties and uses and the conflicting interests involved. It was an explicit choice whose merits, like those of any legislative decision, are open to debate.

As a result of that procedure, Order SCO/2004/2006 of 19 June amended the second section of Order SCO/469/2002: it retained GHB and its salts and removed the reference to esters and ethers. The decision had FEIQUE's express support: in its submission of 12 May 2006, it expressed its 'full approval of that text' and welcomed 'the speed with which you have responded to the problem that would have arisen with GBL had it remained classified as a psychotropic substance'. GBL was thus excluded from the scope of Royal Decree 2829/1977 (Ministerio de Sanidad y Consumo, 2006, FEIQUE submission of 12 May, p. 33 of the digital file; Orden SCO/2004/2006).

Nevertheless, certain expert reports and judicial decisions continue to apply to GBL the criteria established during the period when it was subject to drug control, between 2002 and 2006, relying on the arguments examined below.

4.1. The prodrug argument

Numerous judicial decisions support GBL's classification as a psychotropic substance on the basis of its conversion into GHB. GBL is one of the substances used in chemsex (Bourne et al., 2014; Paniagua and Dujo, 2023). However, classifying a substance as a drug for the purposes of Article 368 CP requires reference to the international and national drug control schedules. Replacing that enquiry with metabolic conversion gives a toxicological equivalence the force of law. The head of the INTCF's Drugs Service acknowledged:

> GBL is not [subject to drug control], but GHB is […]. And so we are treating GBL as an analogue of GHB, and the Institute has already produced reports for the courts that serve as a reference in trials for imposing sentences for offences against health. Public health, because it is, let us say, a precursor of GHB. (Martínez González, 2025, p. 10)

This reasoning also confuses the concepts of a prodrug and a precursor. A prodrug is a pharmacological category denoting a substance that is converted into another molecule when metabolised. The legal framework governing precursors is set out in the 1988 United Nations Convention and Regulation (EC) No. 273/2004, whose schedules do not include GBL (Reglamento [CE] n.º 273/2004). Bringing a substance under control requires its express inclusion through the appropriate legislative or regulatory instrument; equivalence established by expert opinion or judicial analogy cannot replace that procedure.

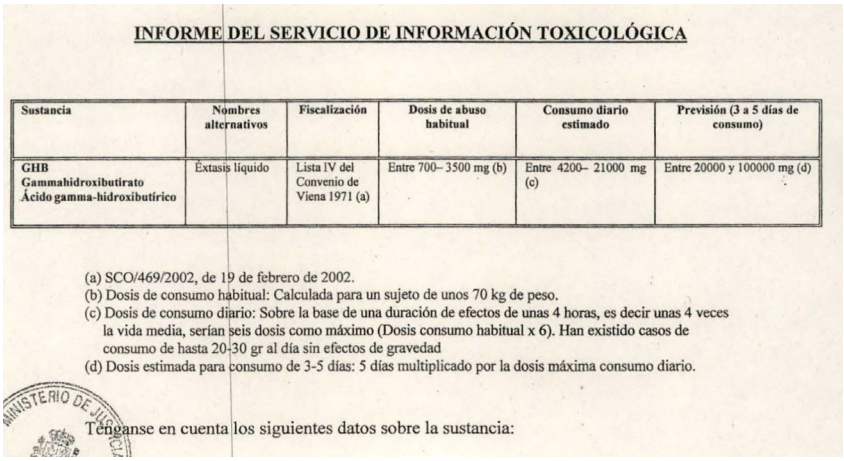
4.2. The INTCF's new criterion

Expert report M23-17208 applies to GBL the GHB doses in report 04/12559 and its 2004 supplement. To do so, it distinguishes two quantities: GBL's density, which it gives as 1.12 g/mL, and an estimated equivalence between 1 mL of GBL and 1.6 g of GHB in sodium salt form. It uses the latter relationship to express GHB quantities in millilitres of GBL. This is therefore an equivalence between substances, rather than a simple conversion

from mass to volume of the same substance (INTCF, 2024, pp. 3–4). The report retains a range of 12.5–62.5 mL for three to five days, but selects 12.5 mL as the quantity at or above which it considers that GBL may be intended for trafficking. By selecting the lower end of its own range, it reduces the reference quantity to one-fifth of the figure that would result from choosing the upper end.

The choice of the lower end of the range requires a justification that a reference to the Institute's previous reports does not provide. Asked about the calculation, the head of the Drugs Service referred to the INTCF's own reports without explaining the arithmetic or its scientific basis (Martínez González, 2025). The criterion thus rests solely on the authority of the issuing body.

Figure 1. Reproduction of the table in expert report no. 04/12559 issued by the INTCF's Toxicological Information Service (supplement of 7 December 2004), showing the estimated GHB doses: usual dose of abuse, daily consumption and estimated supply for 3–5 days, together with the applicable drug control regime. Source: INTCF (2004).



INFORME DEL SERVICIO DE INFORMACIÓN TOXICOLÓGICA

Sustancia	Nombres alternativos	Fiscalización	Dosis de abuso habitual	Consumo diario estimado	Previsión (3 a 5 días de consumo)
GHB Gammahidroxibutirato Ácido gamma-hidroxibutírico	Éxtasis líquido	Lista IV del Convenio de Viena 1971 (a)	Entre 700– 3500 mg (b)	Entre 4200– 21000 mg (c)	Entre 20000 y 100000 mg (d)

(a) SCO/469/2002, de 19 de febrero de 2002.
(b) Dosis de consumo habitual: Calculada para un sujeto de unos 70 kg de peso.
(c) Dosis de consumo diario: Sobre la base de una duración de efectos de unas 4 horas, es decir unas 4 veces la vida media, serían seis dosis como máximo (Dosis consumo habitual x 6). Han existido casos de consumo de hasta 20-30 gr al día sin efectos de gravedad
(d) Dosis estimada para consumo de 3-5 días: 5 días multiplicado por la dosis máxima consumo diario.

MINISTERIO DE JUSTICIA

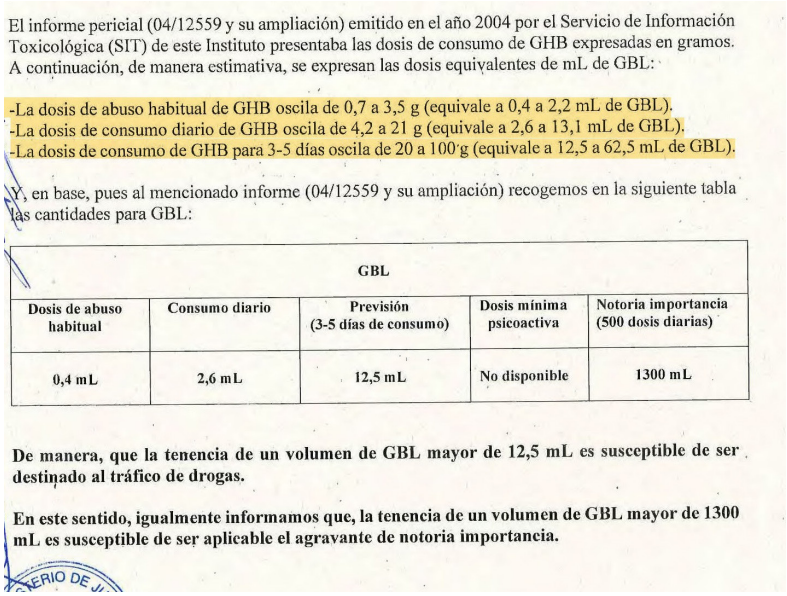
Téngase en cuenta los siguientes datos sobre la sustancia:

Table 1. Upper and lower limits of the GHB/GBL ranges in expert report M23-17208

Variable	Upper end of the range	Lower end selected in M23-17208
Usual dose of abuse (GHB)	3.5 g	0.7 g
GBL equivalent	2.2 mL	0.4 mL
Daily consumption dose (×6)	21 g (13.1 mL)	4.2 g (2.6 mL)
Estimated supply for 3–5 days in the report	100 g (62.5 mL)	20 g (12.5 mL)

Note. The table reproduces the ranges in expert report M23-17208, derived from report 04/12559 and its supplement. The equivalence used is 1 mL of GBL to 1.6 g of sodium GHB. The report gives the estimated supply for 3–5 days as 20–100 g of GHB (12.5–62.5 mL of GBL), rather than the 21–105 g obtained by multiplying the daily doses of 4.2–21 g by exactly five. Source: INTCF (2004, 2024).

Figure 2. Section of expert report M23-17208 of 11 April 2024 reproducing the doses in report 04/12559 (2004) issued by the Toxicological Information Service and their GBL equivalents. It selects 12.5 mL, the minimum of the range for 3–5 days, as circumstantial evidence of trafficking; states 'not available' for 'minimum psychoactive dose'; and sets 1,300 mL as the notoria importancia threshold. Source: INTCF (2024).



El informe pericial (04/12559 y su ampliación) emitido en el año 2004 por el Servicio de Información Toxicológica (SIT) de este Instituto presentaba las dosis de consumo de GHB expresadas en gramos. A continuación, de manera estimativa, se expresan las dosis equivalentes de mL de GBL:

-La dosis de abuso habitual de GHB oscila de 0,7 a 3,5 g (equivale a 0,4 a 2,2 mL de GBL).
-La dosis de consumo diario de GHB oscila de 4,2 a 21 g (equivale a 2,6 a 13,1 mL de GBL).
-La dosis de consumo de GHB para 3-5 días oscila de 20 a 100 g (equivale a 12,5 a 62,5 mL de GBL).

Y, en base, pues al mencionado informe (04/12559 y su ampliación) recogemos en la siguiente tabla las cantidades para GBL:

GBL				
Dosis de abuso habitual	Consumo diario	Previsión (3-5 días de consumo)	Dosis mínima psicoactiva	Notoria importancia (500 dosis diarias)
0,4 mL	2,6 mL	12,5 mL	No disponible	1300 mL

De manera, que la tenencia de un volumen de GBL mayor de 12,5 mL es susceptible de ser destinado al tráfico de drogas.

En este sentido, igualmente informamos que, la tenencia de un volumen de GBL mayor de 1300 mL es susceptible de ser aplicable el agravante de notoria importancia.

4.3. Valuing GBL at the price of GHB

The National Police's National Central Narcotics Office (OCNE) values GHB at around €40–50/g and applies that price to GBL, although 1 mL of GBL is not simply equivalent to 1 g of GHB. Fernández-Dávila's (2017) study, conducted in Barcelona between 2015 and 2016, reports a price of €20 for 30 mL of 'G'. Procleaner, meanwhile, lists a one-litre bottle of Procleaner Blue at €124, including VAT (Procleaner, n.d.). The documentation does not identify the empirical basis for the price of GHB, usually supplied as a salt dissolved in liquid at varying concentrations. Applying it to GBL compares the mass of that sodium salt with the volume of a virtually pure liquid substance, for which the INTCF describes concentrations above 95% (INTCF, 2024, p. 5). This valuation has consequences under criminal law, as it serves as the basis for calculating the fine under Articles 368 and 377 CP. Supreme Court Judgment (STS) 18/2025 assigns 59.89 g of GBL a sale value of €2,814.83 when priced by the gram (Tribunal Supremo, 2026).

4.4. The limits of analogy

Before discussing the intended use of a substance in someone's possession, the legal basis for treating GBL as equivalent to GHB after its removal from the schedules must be clarified. The choice between 21 and 2.1 g as the daily consumption dose of GBL was among the

matters considered by the Board of Judges of the Criminal Divisions of the Madrid Provincial Court on 11 December 2023, as recorded in the agreement adopted by the Permanent Commission of the General Council of the Judiciary (CGPJ) on 20 March 2024 (Consejo General del Poder Judicial, 2024, agreement 1.2-5). At its meeting on 19 December 2024, after receiving INTCF expert report M23-17208, the Board failed to reach a common position and agreed to defer its decision until the Supreme Court's Second Chamber had established the criterion (Audiencia Provincial de Madrid, 2024a). In the meantime, someone carrying a 30 mL bottle, a common retail format, is exposed to arrest and prosecution, with prosecutors seeking several years' imprisonment. This is the usual format among the samples received by the INTCF, yet it contains more than twice the 12.5 mL set as the threshold indicative of trafficking.

The Supreme Court order of 14 March 2024 illustrates the consequences of applying these thresholds. In a case involving possession of 30 mL of GBL, equivalent to 33.9 g, the Chamber upheld the inference that it was intended for trafficking by comparing that quantity with a reference value of 2.1 g. In the same proceedings, drug dependence had been recognised as a mitigating circumstance. The order also considered GBL to be subject to drug control because it was an ester of GHB, and reproduced the inclusion of esters and ethers introduced by the 2002 Order. The case thus brings together the two problems examined here: the decisive weight attributed to quantity in inferring trafficking, and the application of a legislative provision that had been expressly removed in 2006 (Tribunal Supremo, 2024, legal grounds 1(C) and 2(C)).

Figure 3. GBL dropper bottle included in expert report M24-17078 (continuation) of 18 March 2025, addressed to the Chief Anti-Drug Prosecutor. M23-17208, dated 11 April 2024, acknowledges that 'the dropper bottles regularly received by the Madrid Drugs Service usually contain volumes of 20–30 mL and concentrations above 95%', quantities exceeding the 12.5 mL threshold indicative of trafficking. Source: INTCF (2025).

At the international level, following the WHO critical review of 2014, the United Nations Commission on Narcotic Drugs decided by consensus at its meeting on 13 March 2015 not to include GBL in Schedule I of the 1971 Convention on Psychotropic Substances (OMS, 2014; Naciones Unidas, 2015). GBL's absence from the schedules therefore reflects two separate decisions: its express exclusion from Spain's drug control regime in 2006 and the international decision not to include it in 2015.

The treatment of GBL under criminal law also contrasts with the case law that the Second Chamber has applied to other substances absent from the schedules. In STS 713/2013, concerning events in March 2010, before ketamine became subject to drug control in Spain, the Supreme Court recalled:

> our legal system does not provide a definition of drugs for the purposes of criminal law and follows a listing approach by reference to the International Conventions […] the conduct defined in that criminal provision cannot, without breaching the principle of legality, be regarded as constituting the offence merely because the substance is considered toxic. (Tribunal Supremo, 2013, first legal ground, section 2)

The same approach appears in STS 328/2014 concerning fluoromethamphetamine, which was not then included in the international schedules or in Annex I to Royal Decree 2829/1977 (Tribunal Supremo, 2013, 2014b). The continued treatment of GBL as equivalent to GHB introduces an exception that is difficult to reconcile with this criterion.

The Special Anti-Drug Prosecution Office had itself expressed a restrictive position: its General Meeting held in Madrid on 14 and 15 November 2013 agreed that, for 'harmful substances not included in the United Nations (INCB) schedules', the Supreme Court's requirement for inclusion through legislation permitted recourse only to the residual offence under Article 359 CP (Fiscalía General del Estado, 2014, section 5.3.1.1). These agreements call for an explanation of how the Public Prosecution Service's charging practice in relation to GBL can be reconciled with the criterion it had adopted for substances absent from the schedules.

The AEMPS confirmed this position in its certificate of 28 July 2025: GBL is not subject to national or international drug control, is not listed as a scheduled precursor, and there is no indication classifying it as a drug for legal purposes (AEMPS, 2025a). The Agency addressed GBL again during the preliminary public consultation on the draft order concerning other substances. Responding to a proposal on its legal status, it stated that the matter was 'already regulated' by Order SCO/2004/2006, which excludes GHB esters and ethers, including GBL (AEMPS, 2025b, Annex I).

5. SYNTHETIC CATHINONES AND THEIR MULTIPLE 'POSSIBLE' EQUIVALENCES

A similar problem arises when setting reference quantities for synthetic cathinones, several of which are used in chemsex. For mephedrone, Order SPI/201/2011 added 4-methylmethcathinone to Schedule I, 'as well as its stereochemical variants, racemates and salts' (Orden SPI/201/2011). This clause does not cover its positional isomers—2-MMC and 3-MMC—or the

chlorinated cathinones—2-CMC, 3-CMC and 4-CMC—because they are neither stereochemical variants, racemates nor salts, but distinct molecules with characteristics that are not necessarily equivalent (Orden SPI/201/2011; Zapata et al., 2021). Changes in the law require attention to each substance and the date of the events. Order SND/362/2026 of 13 April expressly added 2-MMC and 2-CMC to Schedule II of Annex I to Royal Decree 2829/1977, with effect from 22 April 2026.

In the absence of specific reference quantities for new psychoactive substances (NPS), judicial decisions have drawn different analogies with different substances. For mephedrone, Judgment 812/2017 of the Valencia Provincial Court used the reference value of 480 mg for average daily MDMA consumption in cases of heavy use to assess whether the quantity seized was intended for personal use (Audiencia Provincial de Valencia, 2017, first legal ground). Expert report M24-17078, addressed to the Special Anti-Drug Prosecution Office, instead adopts methamphetamine as the reference substance. It reproduces the same table for six cathinones (2-MMC, 2-CMC, 3-MMC, 3-CMC, 4-MMC or mephedrone, and 4-CMC or clephedrone): 60 mg daily, an estimated supply of 300 mg for three to five days, and a *notoria importancia* threshold of 30 g. Each section invokes similarity in structure and effects, without setting out a consumption calculation for the particular substance (INTCF, 2025, pp. 4, 7, 10, 14, 17 and 20). The extrapolation thus carries over the pattern of four daily administrations from the original report. The shortcomings of the underlying calculation are therefore compounded by the insufficient justification for the equivalence between drugs.

Similarity between two substances does not imply that their consumption doses are identical. Pharmacological classification distinguishes families, isomers and related compounds, but treating them as equivalent requires specific justification (Zapata et al., 2021). This requirement for substantiation also appears in decisions concerning other substances, such as ayahuasca. Judgment 356/2024 of the Madrid Provincial Court states:

> the current introduction into society of new psychoactive substances or emerging drugs without health authorisation, for which no experimental or toxicological data are available, prevents the determination not only of the minimum psychoactive dose but also of the usual consumption doses. (Audiencia Provincial de Madrid, 2024b, first legal ground)

Judgment 316/2025 of the High Court of Justice of Madrid recalls that the INTCF 'is not responsible for determining which substances are subject to drug control, a legal question, since its responsibilities as a technical body are to assist the administration of justice' (Tribunal Superior de Justicia de Madrid, 2025, fifth legal ground, section 4). It adds that 'there is no […] judicial precedent endorsing the conclusions presented *motu proprio* by the Institute', and reiterates the requirements of specificity, certainty and legality established by the Second Chamber (Tribunal Supremo, 2013).

Judgment 333/2026 of 7 July, issued by the 16th Division of the Madrid Provincial Court, assessed a joint purchase of 25.65 g of 2-MMC for two people and the reported pattern of mephedrone consumption: 'about two grams per night and day' at weekends. The Chamber considered that the approxi-

mately 12 g per person could constitute a five-day supply and took account of its intended use at weekends and on public holidays. The acquittal rested on the assessment of the evidence concerning consumption and the shared purchase, together with the lack of a sufficiently established average consumption dose and the absence of a purity determination (Audiencia Provincial de Madrid, 2026, legal grounds 1 and 2).

6. KETAMINE: FROM A SINGLE DOSE TO A DAILY CONSUMPTION REFERENCE QUANTITY

For ketamine, it is essential to distinguish the quantity used in a single administration from the quantity consumed over an entire day. The table circulated by the PNSD in 2021 lists 200 mg of ketamine under the heading 'average dose' and 30 mg as the minimum psychoactive dose (PNSD, 2021). STS 208/2014 had already used a reference value of 200 mg, albeit under a different label: it noted that the full Chamber had not established the daily dose and stated that 'the usual dose of abuse might be around 200 milligrams' (Tribunal Supremo, 2014a, second legal ground).

Expert report M24-17078 (continuation) of 18 March 2025 establishes a different criterion: 30 mg as the minimum psychoactive dose, 200 mg as the usual dose of abuse, 300 mg as daily consumption, 1.5 g as the maximum estimated supply for three to five days, and 150 g as the *notoria importancia* threshold. To establish these quantities, the report refers to expert report 04/12559 and its supplement, together with information on ketamine published on the website of Energy Control, an organisation specialising in harm reduction. Its bibliography also includes the PNSD table and clinical and toxicological studies that do not address specific doses (INTCF, 2025, pp. 48–49).

Energy Control distinguishes quantities by route of administration and describes doses of around 300 mg orally and 200 mg intranasally for psychonautic use. These are quantities per administration; the webpage sets neither a daily maximum of 300 mg nor an estimated five-day supply (Energy Control, n.d.). The expert report uses this information as a starting point for estimating consumption over twenty-four hours and, from that estimate, a quantity that may serve as circumstantial evidence of trafficking, without explaining how one figure is derived from the other. Justifying that calculation would require an account of dosing frequency, route of administration and tolerance among the people whose consumption patterns are used as the reference.

Tolerance and redosing during prolonged sessions alter the relationship between the quantity per administration and cumulative consumption (Morgan et al., 2012; ALEPH, 2025). In this regard, Caudevilla Gálligo and Calzada Álvarez (2013), drawing on fifteen international studies, report intranasal consumption of between three and six grams daily among people with ketamine dependence.

7. CONSTITUTIONAL SAFEGUARDS AT STAKE

Toxicological expert evidence plays an essential role in criminal proceedings: it identifies the substance, determines its purity and the presence of adulterants, and provides

the judge with the specialist knowledge needed to assess the evidence. To fulfil that role, the report must clearly explain the scientific basis of the method, its application to the particular case and the reasoning connecting the data to the conclusion, including its limitations, uncertainties and underlying assumptions (Carr et al., 2020).

This role in assisting the administration of justice does not authorise the INTCF to take the place of the legislature and the health regulator by setting reference quantities with serious criminal consequences without a publicly available methodology and an objective basis. This raises four interrelated legal problems.

The first concerns the principle of legality in criminal law under Article 25.1 of the Spanish Constitution. Article 368 of the Criminal Code is a blanket criminal provision whose scope is completed by reference to the international schedules and the ministerial orders updating Royal Decree 2829/1977. The requirements of certainty, strict application and a statutory basis also extend to those references, since they determine which substances fall within the offence. Punishing possession of GBL intended for others as trafficking, when the substance was expressly removed from control in 2006, means applying criminal law to conduct that falls outside the offence through constitutionally prohibited analogy *in malam partem*.

The second problem concerns legal certainty, recognised in Article 9.3 of the Spanish Constitution. The discrepancy between the drug control rules in force and their application by the courts, together with changes in reference quantities and the selection of different ends of the ranges, makes it difficult to anticipate the consequences of possessing these substances, undermining the principle of foreseeability. Martínez González (2025, p. 12) locates the legal basis for minimum psychoactive doses in the principle of insignificance. For quantities consumed and supplies held for personal use, she refers to the Institute's historical reports and their continued use as a reference by the courts (pp. 12–13). That reference leaves unanswered the scientific questions of how each value is selected and why it can be applied to another substance.

The third problem concerns the presumption of innocence and the proportionality of the criminal justice response. When the lower end of a range, such as that selected for GBL in expert report M23-17208, is applied automatically, exceeding the threshold may effectively become a presumption of guilt. If quantities purchased for personal use exceed or are only slightly different from that reference quantity, the weight given to quantity when inferring an intent to traffic becomes disproportionate. Conduct that should, where appropriate, be addressed through administrative penalties or health policy is thereby brought into criminal proceedings, contrary to the principle of minimum intervention.

The fourth problem concerns the allocation of powers. National drug control is established through legislation adding substances to the schedules, with the Ministry of Health and the AEMPS involved in its preparation and implementation. Internationally, the WHO conducts scientific assessments and makes recommendations, while the United Nations Commission on Narcotic Drugs adopts scheduling decisions.

These objections were also raised with the Public Prosecution Service. The Decree of

the Special Anti-Drug Prosecution Office of 8 June 2026 closed administrative file 1/2025 on the grounds that its prosecutions rely on reports from competent bodies, that defence teams can challenge them and submit their own expert evidence, and that the final assessment rests with the courts. The Prosecution Office at the Supreme Court upheld the closure of the preliminary inquiries by Decree of 9 July 2026, considered that response sufficient and rejected a general review of judgments, although it stated that closure neither determined the merits nor precluded subsequent action (Fiscalía Especial Antidroga, 2026; Fiscalía del Tribunal Supremo, 2026). The response repeats the circular reasoning identified earlier: the Public Prosecution Service invokes reports from the competent body, while the INTCF refers to its own expert reports, leaving the legal basis and the disputed calculations unexplained.

Furthermore, referring these issues to adversarial scrutiny in individual proceedings shifts onto defence teams the task of examining how prosecution for GBL trafficking can be reconciled with its express removal from control. Challenging the validity of the figures requires access to the documents, source data and calculations on which they are based. In turn, examining the control status of GBL requires its treatment as equivalent to GHB to be tested against the wording of the legislation adopted in 2006. Referring both questions to individual proceedings requires defence teams to challenge these premises afresh and, when they need their own expert evidence, to bear its cost, while a response from the Public Prosecution Service on the charging criterion applied remains outstanding.

8. HEALTH AND SOCIAL IMPLICATIONS: CHEMSEX AND HARM REDUCTION

The consequences of these thresholds must also be examined in the context of police stop-and-search practices. Prolonged chemsex sessions may involve repeated dosing and possession of several substances (Bourne et al., 2014). In Madrid, accounts collected by Público describe searches in and around LGTBIQ+ nightlife venues and on the street, which those affected associate with their appearance and gender expression (Martínez Collado and Díaz, 2025). Fernando Caudevilla also lodged a complaint after reporting ten searches between August 2024 and March 2025, mostly near his home, involving questions about substances associated with chemsex (Martínez Collado, 2025).

The relationship between these police practices and drug quantity thresholds is explicit in the Government's response of 19 March 2025 to parliamentary question 184/19835. Referring to the activities of Madrid's Centro District Police Station, the Government states that arrests for drug possession occur "when quantities exceeding those permitted are seized", according to Supreme Court case law (Gobierno de España, 2025, p. 1). The thresholds used to assess the intended use of the substances thus become relevant at the point when police decide whether to make an arrest. Paniagua and Dujo (2023) note that travelling between homes and other chemsex settings may involve carrying drugs for personal use and recommend specialist expert assessment. Viader Castro (2024) proposes reviewing the traditional criteria for

distinguishing personal use from trafficking in light of the substances involved, the duration of sessions, stigma and homophobia.

The accounts published by Martínez Collado and Díaz (2025) describe more than twenty-four hours in police custody, strip searches experienced as humiliating, defence costs of between €4,000 and €8,000, and proceedings lasting months or years. They also recount distress, fear of repercussions at work and family members learning about their drug use as a result of the arrest. One interviewee explained that he had accepted a conviction under a plea agreement to avoid imprisonment, despite maintaining that the drugs were intended for personal use. These experiences highlight the importance of considering the costs of criminal justice intervention from the point of arrest and throughout the proceedings.

In healthcare, the Health Working Group of the Spanish Council on Drug Dependence and Other Addictions (CEDOA) identifies stigma associated with drug use and sexual practices, together with legal uncertainty, as barriers to accessing care. It warns that the legal framework may encourage concealment of practices, faster or more intensive drug use, and delays in seeking help. It therefore proposes reviewing quantity criteria in light of actual patterns of use, strengthening their empirical basis and facilitating referral to care services (CEDOA, 2026, pp. 5–6). These recommendations build on research into barriers to care and inequalities in the consequences of criminalisation (Csete et al., 2016; Daniels et al., 2021), as well as the risks of acquiring a criminal record, losing employment and experiencing stigma identified in the EMCDDA's GHB risk assessment (2002, pp. 54–56).

9. INTERNATIONAL COMPARISON: FUNCTIONS AND PROCEDURES FOR SETTING QUANTITIES

In the European comparison presented in the report of the 2011 TNI-EMCDDA seminar, Spain appears as the only country that entrusts the setting of reference quantities to an expert scientific body outside the institutions that enact legislation or decide criminal cases. In the other jurisdictions covered, quantities are established by parliamentary legislation in Cyprus; government decree in the Czech Republic; ministerial provisions in Belgium, Italy, Lithuania, Hungary, Austria and Portugal; national police or Public Prosecution Service guidelines in the Netherlands, Finland and Norway; regional guidelines in Germany; and judicial decisions in Germany and Sweden (Harris, 2011, p. 4).

The Spanish criteria examined estimate quantities for 3–5 days of use: 7.5 g of cocaine, 3 g of heroin and 2.4 g of MDMA, compared with 0.3 g of methamphetamine and of cathinones treated as equivalent to it, 12.5 mL of GBL and, for ketamine, 1.5 g in the INTCF's 2025 expert report (PNSD, 2021; INTCF, 2024, 2025).

The function of these quantities varies across jurisdictions. In England and Wales, the guidelines on supply or possession with intent to supply use 20 g of amphetamine and 5 g of ketamine as category 4 reference quantities for sentencing (UK Sentencing Council, 2021). In Australia (Tasmania), the study by Hughes et al. (2014) reports 'traffickable' quantities of 25 g for amphetamine and methamphetamine and 10 g for MDMA, expressed as the weight of the mixture and

linked to a presumption of supply. In Germany, a 'non-small quantity' triggers aggravated offences and is expressed, depending on the substance, as the amount of active ingredient in base form. Section 31a BtMG also allows prosecution for small quantities intended for personal use to be waived where culpability is low and there is no public interest in prosecution. Table 2 presents these differences in function and unit alongside the reference quantities.

10. PROPOSALS

Six reforms are proposed in response to the problems examined. The first is to approve reference quantities for personal use through the appropriate legislative or regulatory instrument, with a publicly available methodology and open publication of the tables, calculations and sources used. The second is to establish periodic reviews coordinated across disciplines, involving the AEMPS, the PNSD

Table 2. Reference quantities by legal function and source date
Units and legal functions are specified in the note.

Substance	Spain	Italy (2006)	England and Wales (2021)	Germany	Portugal	Netherlands (2015)	Australia (Tasmania, 2014)
Cocaine	7.5 g	0.75 g	5 g	5 g hydrochloride	2 g hydrochloride	≤ 0.5 g	25 g
Heroin	3 g	0.25 g	5 g	1.5 g hydrochloride	1 g	≤ 0.5 g	25 g
MDMA / ecstasy	2.4 g	0.75 g	MDMA: 5 g; ecstasy: 13 tablets	30 g base	1 g	≤ 5 tablets (Amsterdam)	10 g
Amphetamine	0.9 g	0.5 g	20 g	10 g base	1 g	≤ 0.5 g	25 g
Methamphetamine	0.3 g	0.5 g	—	5 g S-methamphetamine base	—	—	25 g
Ketamine	1.5 g (2025)	0.9 g	5 g	—	—	—	—

Note. Spain: estimated supply for three to five days, using the forms and preparations in the PNSD table (2021); for ketamine, INTCF (2025). Italy: quantities of active ingredient used to assess personal use (Ministero della Salute, 2006). England and Wales: product weight and number of tablets as category 4 reference quantities for sentencing for supply (UK Sentencing Council, 2021). Germany: 'non-small quantity' relevant to aggravated offences, expressed in the chemical form indicated (Landgericht Traunstein, 2025; Landgericht Kempten, 2022; Landgericht Regensburg, 2022). Portugal: ten average daily doses from the 1996 annex, serving as indicative evidence under the 2023 reform (Portaria 94/96; Lei 55/2023). Netherlands: prosecution criterion for small quantities of product (Openbaar Ministerie, 2015); for MDMA, the historical criterion for Amsterdam's electronic music events in 2015, revised in 2023 (Gemeente Amsterdam, 2023). Tasmania (Australia): weight of the mixture and a traffickable quantity linked to a presumption of supply in the study by Hughes et al. (2014).

and the Spanish Observatory on Drugs and Addictions, so that thresholds can be adapted to changes in patterns of use.

The third proposal is to define the respective functions of toxicological identification, assessment of care needs and classification under criminal law, so that the conclusions reached in each field are used for their intended purpose. The fourth requires reports to provide the references and explanation of the method needed to reconstruct and verify their conclusions (Carr et al., 2020).

Fifth, assessing the intended use of the substance must take account of the circumstances of purchase and consumption, ensuring that quantity does not replace an examination of all the circumstances. Finally, the prohibition of analogy *in malam partem* must be upheld in relation to substances that are not controlled or have been expressly removed from control, with the competent health authority, the AEMPS, consulted on their control status.

Comparative experience offers ways to develop these proposals. The EMCDDA (2015) describes the combination of legislation, prosecution guidelines and case law on quantities in European countries, where quantities serve as an indication of the intended use of the substance rather than conclusive proof of trafficking. O'Reilly et al. (2022) call for quantities to be set through a deliberate legislative or regulatory process based on data on patterns of use. The importance of those data is illustrated by interviews conducted in 2022 with 45 people who use drugs in British Columbia: the proposed 2.5 g fell below the amounts some interviewees consumed and purchased. The study therefore emphasises the need to consider supplies held between purchases when setting reference quantities (Ali et al., 2023).

11. CONCLUSIONS

The analysis of the reports and their application by the courts shows that the Spanish system of reference quantities, in its current form, fails to meet the requirements of legality, the presumption of innocence, legal certainty and proportionality. The Supreme Court Order of 14 March 2024 illustrates how quantity can serve as decisive circumstantial evidence of an intent to traffic, on the basis of an expert reference quantity and a classification of GBL as a controlled substance that must be assessed against the 2006 regulatory amendment. There are also calculations and equivalences between substances for which the justification is insufficient. Their consequences are particularly significant in chemsex settings, where the duration of sessions and the holding of supplies for personal use require attention to patterns of consumption. Assessment of this criminal justice response must also consider the documented risks of stigma and barriers to healthcare and harm reduction.

The current situation calls for the role of the INTCF as a body assisting the administration of justice to be defined within the allocation of powers. Setting reference quantities is a legislative or regulatory decision that must be made through a ministerial order or the appropriate legislative instrument. Toxicological expert evidence retains its essential role in identifying and quantifying the substance using a verifiable scientific methodology. It is for the judge to assess the circumstances of the case to determine whether the substance was intended for trafficking, treating quantity as one item of circumstantial evidence within the evidence as a whole.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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